



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,704	09/25/2003	Daiju Itagaki	036755-0102	6354
22428	7590	05/19/2006	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			WILLOUGHBY, TERRENCE RONIQUÉ	
			ART UNIT	PAPER NUMBER
			2836	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

11A

Office Action Summary	Application No.	Applicant(s)	
	10/669,704	ITAGAKI ET AL.	
	Examiner	Art Unit	
	Terrence R. Willoughby	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 5 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/25/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/17/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figures 7 and 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Art Unit: 2836

3. The abstract of the disclosure is objected to as being improper. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 1 is objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrase "predetermined format" makes the claim indefinite and unclear what the format means?

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) and in view of Yoshikoshi (US 20020051271).

Regarding claim 1, (AAPA) in Fig. 1 discloses the claimed said digital protection relay with a time sync function, comprising: analog input means (1) for converting an analog quantity electricity to a digital quantity of electricity by sampling the analog quantity of electricity input from a power system (PS) at predetermined cycles, and; time sync means (2) that receives a digital quantity of electricity obtained by the analog input unit via a communication medium (L); a sampling sync circuit (24) that specifies the sampling timing of the digital quantity of electricity input from the analog input unit (1); a time calculation circuit (23) that calculates a sampling timing on the basis of a time data

signal output from the reception circuit, a reception circuit (21) that receives a reception signal that receives a reception pulse signal indicative of a reference timing and time data which is sent from a reference time signal generator (4) ;and a determination unit that compares a digital quantity of electricity output from the time sync means with a determination value and discriminates the presence/absence of a fault in the power system. The (AAPA) does not disclose a discrimination code of a predetermined format that generated the basis of a reference timing generated based on a reception signal from a positioning system.

However, Yoshikoshi (Fig. 1) discloses a loss of signal detection circuit for a light receiver having a discrimination circuit (8a) with a predetermined discrimination threshold based on a reference timing (8b, 8c) generated by the signal detector circuit (20) from the light receiver. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the discrimination code teachings of Yoshikoshi to the digital protection relay of the (AAPA) to detect a code error rate in the discrimination circuit based on the comparison results with regard to the discrimination threshold and the discrimination timing.

Regarding claim 6, one would necessarily perform the recited method steps in using the digital protection relay device rejected above in claim 1.

Regarding claim 2, The (AAPA) in view of Yoshikoshi discloses the claimed said digital protection relay with a time sync function, according to claim 1, wherein the time sync means (AAPA, Fig. 1(2)) receives time data from a time signal generator (AAPA,

Fig. 1(4)), and specifies the sampling timing of the digital amount on the basis of the discrimination code (Yoshikoshi, Fig. 1(8a)) and the received time data.

Regarding claim 7, one would necessarily perform the recited method steps in using the digital protection relay device rejected above in claim 2.

Regarding claim 3, The (AAPA) in view of Yoshikoshi discloses the claimed said digital protection relay with a time sync function, according to claim 2, wherein the time sync means comprises:

- a reception circuit (AAPA, Fig. 1, (21)) that receives that receives the discrimination code (Yoshikoshi, Fig. 1(8a)) and the time data transmitted from the time signal generator (AAPA, Fig. 1, (4)) via the communication medium (AAPA, Fig. 1, (L));

- a code discrimination circuit (Yoshikoshi, Fig. 1, (8a)) that discriminates the reference timing on condition that the discrimination code received by the reception circuit coincides with a desired code (abstract);

- a time calculation circuit (AAPA, Fig. 1, (23)) that calculates the sampling timing on the basis of the reference timing discriminated by the code discrimination circuit (Yoshikoshi, Fig. 1, (8a)) and the time data; and

- a sampling sync circuit (AAPA, Fig. 1,(24)) that specifies the sampling timing of the digital quantity of electricity on the basis of the sampling timing calculated by the time calculation circuit (AAPA, Fig. 1, (23)).

Regarding claim 8, one would necessarily perform the recited method steps in using the digital protection relay device rejected above in claim 3.

Regarding claim 4, The (AAPA) in view of Yoshikoshi discloses the claimed said digital protection relay with a time sync function, according to claim 2, wherein the time sync means further comprises communication monitor means (Yoshikoshi, [0004], ll. 13-19 and [0009]) for monitoring the soundness of at least one of the transmission circuit of the time signal generator, the communication medium and reception circuit (Yoshikoshi, Fig. 1, (20)) on the basis of the received time data and discrimination code (Yoshikoshi, Fig. 1, (8a)).

Regarding claim 9, one would necessarily perform the recited method steps in using the digital protection relay device rejected above in claim 4.

Allowable Subject Matter

Claim 5 is objected to as being dependent upon a rejected base claim 2, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 5 would be allowable over the art of record because the prior art does not teach or suggest a code separation circuit that separates time data and a discrimination code from the collation output input from the collation circuit, and generates the reference timing when the separated discrimination code coincides with a predetermined discrimination code as set forth in the claimed invention.

Claim 10 is objected to as being dependent upon a rejected base claim 7, but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims based on the same reasons recited above in claim 5.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moriya et al. (2001/0056305) discloses a electronic device and appliance management system having a receiving for receiving a predetermined signal, a determining means for determining the condition of receiving of the predetermined signal performed by the receiving means, a predetermined discrimination code for extracting the discrimination code from the signal received by the receiving means, a collation means for collating the discrimination code extracted by the extraction means. Sukegawa et al. (US 5,786,699) discloses a relay test apparatus for a protective relay comprising a GPS receiver and a method for synchronizing samples of amounts of electricity in the protective relay. Yamaura et al. (US 4,709,295) discloses a digital protective rely system for protecting electrical power system. Sugiura et al. (US 6,678,134) discloses a digital protective relay system capable of sampling time using a GPS satellite. Takaoka et al. (US 6,597,180) discloses a fault point location system by using a reference time signal to accurately determine the location. Nishitani (US 5,293,295) discloses a digital protective relay apparatus to be used for protecting a power system and a function for correcting an error caused in an analog input circuit.

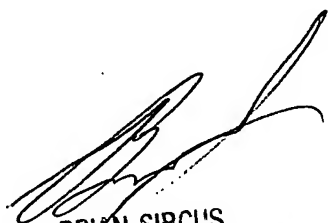
Art Unit: 2836

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Willoughby whose telephone number is 571-272-2725. The examiner can normally be reached on 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

5/12/06
TRW



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800